

1

Cairo Governorate

Nozha Language Schools

Question

1

A Complete the following statements :

1. and are considered as forms of energy.
2. The oxygen molecule consists of two atoms, while the ammonia molecule consists of one and three hydrogen atoms.
3. Limbs are modified into wings in bats for, while into paddles in whales and dolphins for in water.
4. The attraction force among the molecules of copper is than that between molecules of water.
5. Scorpion has pairs of legs, while ants have pairs of legs.
6. The heat transfers by convection through and materials.

B Cross the odd word out :

1. Aluminium Sulphur/ Copper / Iron.
2. Jellyfish Armadillo / Earthworm Octopus
3. Helium Oxygen Neon/ Argon.

Question

2

A Choose the correct answer :

1. The atom is electrically
a. positive. b. neutral. c. negative.
2. are from animals that have an external support.
a. Mammals b. Snails c. Birds
3. The produced energy by burning the fuel is energy.
a. potential b. nuclear c. heat
4. The volume of a mixture of 300 cm^3 of water and 200 cm^3 of ethyl alcohol is
 500 cm^3 .
a. less than b. more than c. equals
5. Secretion of poison in the snakes is a adaptation.
a. structural b. functional c. behavioral



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6. The number of electrons that saturates an energy level (n) =

a. n^2

b. $2n$

c. $2n^2$

7. The electric cell is composed of solution with two different metals dipped in,

a. a salt

b. an alkali

c. an acid

B Put (✓) or (✗) :

1. As we go further from the nucleus, the energy of the energy level decreases. ()
2. The heat transfers from the lower temperature object to the higher temperature object. ()
3. Mercury is a liquid element that its molecule composed of one atom. ()
4. Chemical pesticides and car exhaust are from the harms of technology applications. ()
5. Scolopendra and euglena are from myriapods. ()

C Write the importance of each of the following :

1. Gold-copper alloy

2. Car dynamo.

Question

3

A Correct the underlined words :

1. The symbol of copper is Ca while F is the symbol of phosphorous.
2. Frogs undergo aestivation in winter to overcome the decreasing of temperature.
3. Boiling point is the temperature at which matter changes from solid into liquid state.
4. Friction changes the potential energy into electric energy.
5. Wood is a good conductor of heat and electricity.
6. The mechanical energy is the sum of heat energy and light energy.
7. The density equals mass divided area.

B Give reasons for :

1. Camel's legs end in a broad pad and thick skin.
2. Argon atom ($_{18}\text{Ar}$) doesn't enter a chemical reaction through the ordinary conditions.

C Calculate the potential energy of an object of weight 50 newtons that placed at height 5 metres.

Question

4

A Write the scientific term :

1. The smallest individual unit of matter which can share in chemical reaction.



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- ~~2.~~ It is a modification in the living organism body structure, function or behavior to be adapted with its environmental conditions.
- ~~3.~~ It is a permanent resource of energy.
- ~~4.~~ An amount of energy that gained or lost to transfer an electron from one energy level to another.
5. The way of transferring the heat through solids.

B The figure represents the electronic configuration of the atom of an elements
Determine :

- ~~1.~~ The atomic number.
- ~~2.~~ The mass number.
- ~~3.~~ The number of energy levels.
- ~~4.~~ The number of electron in the last energy level.

C Match from column (B) what is suitable for column (A) :

(A)	(B)
1. Chameleon	a. reproduce by formation of spores.
2. Voughair	b. colours itself with the dominant colours of surrounding environment to capture the prey.
3. The jerboa	c. from the insectivorous plants.
4. Drosera	d. undergoes aestivation in summer to escape from high temperature.
5. Rat	e. is an example of rodents.

2

Cairo Governorate

Lycee Bab El Louk

Answer the following questions :

Question

1

A Complete the following statements :

1. The matter in state has a definite shape and definite volume.
2. Technology has negative effects like
3. An alloy of is used in making jewels.
4. In the simple electric cell, energy is converted into energy.



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~~X~~ The pendulum can convert potential energy into energy.

~~X~~ Activity of bats during night is considered adaptation.

Identify:

1. Species.

2. Melting point.

Question 2

Correct the underlined words :

~~X~~ 1. If the density of a matter is 2 g/cm^3 and its volume is 50 cm^3 , the mass equals 25 g.

~~X~~ 2. Heat is transferred through the space by conduction.

~~X~~ 3. Water molecule is consisted of one oxygen atom and two nitrogen atoms.

~~X~~ 4. Molecules of liquid element consisted of one atom is the bromine.

~~X~~ 5. Intercellular spaces among molecules of solid state are medium.

~~X~~ 6. From plants reproduce by formation of spores palms plant.

Give reasons for :

~~X~~ 1. Piece of iron sinks in water.

~~X~~ 2. Camel's legs has flat pad.

Question 3

Choose the correct answer to complete the following statements :

~~X~~ Rat has

~~X~~ a. two pairs of incisors in each jaw.

b. one pair of incisors in each jaw.

~~X~~ c. three pairs of incisors in each jaw.

d. no correct answer.

2. The Sun is

~~X~~ a. resource of permanent energy.

b. resource of non-permanent energy.

~~X~~ c. not an energy resource.

d. (a) and (c).

~~X~~ 3. In the radio cassette inside the car the

~~X~~ a. electric energy is converted into mechanical energy.

~~X~~ b. light energy is converted into heat energy.

~~X~~ c. electric energy is converted into kinetic energy.

~~X~~ d. electric energy is converted into sound energy.

4. Atom symbol of potassium element is

~~X~~ a. Hg

b. Cu

c. P

d. K



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5. Some substances need heat to get soften such as

- a. coal. b. iron. c. sulphur. d. rubber.

6. Secreting sweat by skin is considered adaptation.

- a. structural b. functional c. behavioral d. no correct answer

7. Write the electronic configuration of the following atoms :

1. $_{11}\text{Na}$

2. $_{10}\text{Ne}$

Question

8. Calculate the potential energy of an object its mass is 4 kg. is placed at 5 m. height (consider $g = 10 \text{ m/s}^2$).

9. Mention only one difference between

1. Element and compound. 2. House fly and scorpion. 3. Electron and proton.

10. What happens in each of the following cases ... ?

- ✗ When the energy of the electron is more than the energy level in which the electron rotates.
- ✗ The freezer is found at the lower part of the fridge.
- ✗ Friction between the frames of bicycle's wheel with the brake.

3

Cairo Govern rate

Notre Dame Des Apotres School Shoubra

Answer the following questions :

Question

11. Complete the following sentences :

- The hydrogen molecule consists of, while the argon molecule consists of
- The density is the of unit volume of substance and its measuring unit is
- and are used in classifying plants.
- When the speed of the pendulum is maximum the energy is maximum and energy is minimum.
- Simple electric cell changes energy into energy.
- The cockroach is from but scorpion is from



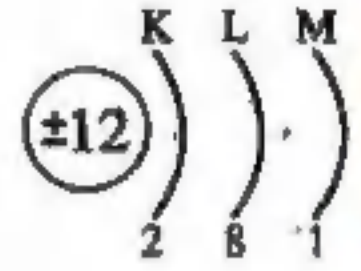
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B Calculate :

1. The potential energy of an object whose mass is 10 kg. and placed at 5 m. height from the ground (Considering gravity acceleration 10 m/s^2).
2. Kinetic energy of an object whose mass is 1 kg. and moving at speed of 5 m/s.
3. The mass of piece of sulphur whose volume is 10 cm^3 and its density is 2.1 gm/cm^3 .

C Look at the opposite figure, then answer :

1. Find number of protons.
2. Find the mass number.
3. Find the atomic number.
4. Find this element activity.

**Question 2****A Give reasons for each of the following :**

1. Wood piece floats on water surface, while a piece of lead sinks in it.
2. Equal volumes of different substances have different masses.
3. Camel's legs end with broad pad.
4. Some plants catch and feed on insects.
5. The freezer is found at the top of fridge.
6. The volume of a mixture of water with alcohol is less than sum of their volumes before being mixed together.

B Mention one example for :

1. Solid substance has low melting point.
2. Insectivorous plants.
3. Unicellular organism.
4. Alloy used in making heating coils.

C Write the symbols of the following element :

1. Mercury.
2. Sodium.
3. Lead.
4. Zinc.

D Write electronic configuration for :

1. $_{19}\text{K}$
2. $_{9}\text{F}$
3. $_{13}\text{Al}$
4. $_{10}\text{Ne}$

Question 3**A Write the scientific term for :**

1. The sum of potential and kinetic energies of a body.
2. The temperature at which matter begins to change from solid to liquid.



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3. A group of terrestrial plants that reproduce by formation spores.
4. The number of positive protons in nucleus.
5. The work done during the motion of an object.
6. Invertebrates that are characterized by having number of jointed legs.

B What is the meant by ... ?

1. Aestivation.
2. Quantum.
3. Species.
4. Temperature.

C Correct the underlined words :

1. Heat transfers through solids by convection.
2. Work = force \times time.
3. Bean plant belongs to gymnosperms plants.
4. A piece of iron its mass 156 gm. and its volume is 20 cm^3 , so its density = 8.7 gm/cm^3 .

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Question 4

A Choose the correct answer :

1. The colour property distinguishing factor between
 a. flour and table salt. b. iron and gold. c. O_2 and CO_2 . d. salt and sugar.
2. The molecule of gaseous element that consists of one atom is
 a. oxygen. b. hydrogen. c. helium. d. mercury.
3. Heat transfers through liquids by
 a. conduction. b. convection.
 c. radiation. d. convection and radiation.
4. From the animals which don't have body support are
 a. raptile. b. snails. c. jellyfish. d. mammals.
5. Scorpion has legs.
 a. 4 b. 8 c. 44 d. 6
6. The molecule of ammonia consists of atoms.
 a. 2 b. 6 c. 4 d. 1

B What happens when ... ?

1. An electron loses an amount of energy.
2. Doubling the weight of an object (concerning its potential energy).
3. Using water in putting out petrol fires.
4. The number of protons changes (To mass and atomic number).



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Choose the odd word out then write the relation between the rest words :

1. Lion – Tiger – Wolf – Armadillo.
2. Ice – Wood – Cork – Iron.
3. Reptiles – Fish – Birds – Worms.
4. Na – Cu – Al – Fe.

4

Cairo Governorate

East Nasr City Directorate

Answer the following questions :

Question

1

Complete the following sentences :

1. The measuring unit of density is, while the measuring unit of work is
2. alloy is used in making jewels, while alloy is used in making heating coils.
3. Liquid element its molecule is composed of one atom is, while that composed of two atoms is
4. The attraction force among gaseous molecules is
5. is the amount of energy gained or lost to transfer an electron from an energy level to another.
6. Armadillo belongs to mammals and hedgehog belongs to mammals.

Give reasons for :

1. The atom is electrically neutral.
2. On adding 50 cm^3 of alcohols to 50 cm^3 of water the total volume not equal 100 cm^3 .
3. Some plants pounce insect.
4. Kinetic energy increases four times as the velocity of the moving body is doubled.

What is meant ... ?

1. Density of water equals 1 gm/cm^3 .
2. Mass number of sodium is 23.

Question

2

Write the scientific term :

1. The basic classification unit for living organisms.
2. The simplest pure form of a matter that can't be analyzed into simpler form.



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3. The ability to do work or to make a change.
4. Energy is neither created nor destroyed, but it is converted from one form to another.
5. The ability of some living organisms to be hidden from their enemies.

B Compare between :

1. Arachnids and insects. (according to the number of legs).
2. Solids – Liquids and gases. (according to intermolecular space and intermolecular force).

C Calculate the density of iron cube its mass 78 gm. If that piece was immersed in 100 cm³ of water the level of water rises to 110 cm³

Question 3

A Choose the correct answer :

1. Mammal animal that has one pair of incisors in each jaw
 a. squirrel. b. rabbit. c. lion. d. no correct answer.
2. The nucleus of atom doesn't contain neutrons.
 a. neon b. hydrogen c. oxygen d. no correct answer
3. The atomic number of an atom of an element, its (M) energy level contains 2 electrons is
 a. 8 b. 10 c. 12 d. 14
4. Heat transfers by through liquid and gas.
 a. conduction b. convection c. radiation d. no correct answer
5. The density of 12 gm. of pure iron is the density of 2 gm. of iron.
 a. more than b. equal to c. less than d. no correct answer

B Write the electronic configuration for the following :

1. $^{39}_{19}\text{K}$ 2. $^{35}_{17}\text{Cl}$ 3. $^{40}_{18}\text{Ar}$ 4. ^7_3Li

C A force of 20 newton acts on a body to move it a distance 1.5 m. in the same direction of force. Calculate the work done.

Question 4

A Give an example for :

1. An inert gas. 2. Insectivorous plant. 3. Monocotyledon plant.

B Mention the name of the device which used to change :

1. Chemical energy to electric energy.
2. Electric energy to kinetic energy.



C If you have two elements (${}^{14}_7\text{N}$ - ${}^{24}_{12}\text{Mg}$) answer the following :

1. Write the name of each one.
2. The atomic number of each one.

5

Cairo Governorate

Degla Valley Language School

Answer the following questions :

Question 1

A Complete the following sentences :

1. The electron has charge, while the proton has charge.
2. Heat transfers through solids by, while heat transfers through liquids by
3. The dynamo converts the energy into energy.
4. From the examples of dicotyledon plants are and
5. The front limbs of whales and dolphins are modified into, while the front limbs of bats are modified into

B What is meant by ... ?

1. The melting point.
2. The law of conservation of energy.

Question 2

A Choose the correct answer :

1. is from the animals that make hibernation in winter.
a. Desert snail b. Jerboa c. Frog
2. is a permanent resource of energy.
a. Sun b. Coal c. Natural gas
3. All of the followings belong to arachnids except
a. locust. b. scorpion. c. spider.
4. The electric lamp changes the energy into light and heat energy.
a. sound b. electric c. mechanical
5. The smell property is a distinguishing factor between
a. iron and gold. b. wood and plastic. c. perfume and vinegar.
6. The energy level N is saturated by electrons.
a. 8 b. 18 c. 32



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B Give example for :

1. A piece of wood floats on the water surface, while an iron nail sinks in water.
2. Some plants like drosera and dieonea pounce insects.
3. The atom is electrically neutral.

C Calculate the potential energy of an object its mass is 2 kg. at a height 3 m. knowing that the gravity acceleration is 10 m/s^2 .

Question 3

A Write the scientific term :

1. The work done during the motion of the objects.
2. The insect which looks like the branches of the plant.
3. The smallest part of matter that can exist freely having the properties of matter.
4. The basic classification unit for living organisms.

B Mention the use of :

1. The copper-gold alloy.
2. The sharp and crooked beaks in hawks.
3. The simple electric cell.

C Draw the electronic configuration of the following atoms :

1. $^{35}_{17}\text{Cl}$
2. $^{27}_{13}\text{Ne}$

Question 4

A Correct the underlined words :

1. The molecules of inert gases consist of two atoms.
2. Friction turns the mechanical energy into magnetic energy.
3. Iron and copper are bad conductors of heat.
4. The rat belongs to the lagomorphs.
5. The kinetic energy decreases by increasing the mass and speed of objects.
6. The chemical symbol of silver is Sl.

B Mention an example for :

1. A plant reproduces by formation of spores.
2. The liquid element consists of two atoms.
3. A toothless mammal.
4. A solution that is good conductor of electricity.



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Compare between :

1. Insects and arachnids (according to the number of legs).
2. Solids and gases (according to the intermolecular spaces).

6

Cairo Governorate

Dr. Ahmed Zewail
Distinguished Language School

Answer the following questions :

Question

1

Complete the following statements :

1. is the positive charges that exists in the nucleus.
2. The intermolecular spaces between iron molecules
3. is the way of transferring heat through space.
4. is an animal from edentates.
5. is the sum of protons and neutrons.
6. is the sum of potential and kinetic energy.

Calculate the mass of piece of sulphur, its volume 5 cm^3 , knowing that the density of sulphur 2.1 gm/cm^3 .

Write the symbol of :

1. Sodium.
2. Calcium.
3. Iron.
4. Fluorine.

Question

2

Write the scientific term :

1. The temperature at which the substance begin to change from solid to liquid.
2. The monoatomic liquid.
3. The particle that gains a quantum of energy.
4. A device changes solar energy to electric energy.
5. The basic classification unit of living organisms.
6. The plants which devour insects to get protein.

Give reasons for :

1. The atom is electrically neutral.
2. Neon is an inert gas.



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3. Heater is put at the bottom of the room.

4. Spiders are from arachnids.

● Cross the odd word out :

1. Mosquitoes – Scorpion – Ant – Bee.

2. Sound – Heat – Weight – Mechanical.

3. Sugar solution – Salt solution – Acidic solution – Alkali solution.

4. Ammonia gas – Water – Hydrogen – Carbon dioxide.

Question

3

● Choose the correct answer :

1. In simple pendulum P.E at maximum height =

a. K.E.

b. zero.

c. M.E.

d. 10 joules.

2. The third energy level is saturated by electrons.

a. 2

b. 10

c. 18

d. 8

3. are from the animals which don't have body support.

a. Reptiles

b. Snails

c. Jellyfish

d. Birds

4. Heating coils are made up of alloy.

a. iron-copper

b. nickel-iron

c. chrome-copper

d. nickel-chrome

5. reproduce by forming spores.

a. Vougheir

b. Pine

c. Bean

d. Wheat

6. Car engine changes at first chemical energy to energy.

a. heat

b. electric

c. magnetic

d. light

● Find atomic number, mass number, number of neutrons, then make the electronic configuration for $^{39}_{19}\text{K}$.

1. The of the opposite device is

2. The positive pole is

3. The negative pole is

4. The liquid in the basin is



Question

4

● Put (✓) or (✗) :

1. The volume of ■ mixture of 30 cm^3 of water and 20 cm^3 of alcohol is 50 cm^3 . ()

2. Secreting poison in snakes is ■ behavioral adaptation. ()



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3. Amoeba is from unicellular micro-organisms. ()
4. The number of the electron in the outermost energy level in ${}_6\text{C}$ is $4e^-$ ()
5. Oxygen gas from monoatomic active gases. ()
6. Equal volumes of different substances have different masses. ()

11 Calculate the M.E of an object falls downward, at height = 11 m. , its speed was 10 m/sec and its mass = 5 kg knowing that its weight = 49 N.

12 Write the classification for :

1. Rabbit.
2. Green algae.

7

Giza Governorate

Sorour Language Schools

Answer the following questions :

Question

1

13 Complete the following statements :

1. The liquid that is consists of one atom is
2. In dry electric cell, energy changes into energy.
3. At highest point of the pendulum, the energy is maximum.

14 Give reasons for :

1. The heater is placed at the ground.
2. It is easy to divide an amount of water into smaller parts.
3. Some plants pounce and digest insects.
4. The equation $2n^2$ is not applied on levels higher than 4th level.

15 Write the electronic configuration for each of the following and mention if it is active or inactive :

1. ${}_{11}\text{Na}$ 2. ${}_2\text{He}$ 3. ${}_{20}\text{Ca}$

Question

2

16 Write the scientific term :

1. A modification in behavior , structure , biological function of a living organism's organs.
2. Energy is neither created nor destroyed, but it is transformed into another form.
3. The basic classification unit of living organisms.
4. The atom which gains a quantum of energy.



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B Compare between :

1. Electron and proton (concerning the charge and site).
2. Potential energy and kinetic energy (concerning definition and its value on the ground).

C If you have two cubes (A) & (B) of wood whose density is 0.5 gm/cm^3 Calculate :

1. The mass of cube (A) knowing that its volume is 50 cm^3
2. The volume of cube (B) knowing that its mass is 10 gm.

Question 3

D Put (✓) or (x) and correct the wrong one :

1. Gymnosperms are flowering plants. ()
2. Heat is transferred through solids by conduction. ()
3. Inert gases are monoatomic. ()
4. In solar cells, the solar energy is converted into heat energy. ()

E What happens when ... ?

1. Leaving a piece of iron exposed to air.
2. Friction of the bicycle wheels to a rough surface.
3. The bones of the front limbs & fingers of monkey are not elongated.

F Cross the odd word & write the scientific term of the others :

1. Locust – Mosquito – Spider – Cockroach – Flies.
2. Butter – Ice – Iron – Wax.
3. $_{10}\text{Ne}$ – $_{18}\text{Ar}$ – $_{2}\text{He}$ – $_{12}\text{Mg}$

Question 4

A What is meant by ... ?

1. Mechanical energy.
2. The density of water is 1 gm/cm^3 .

B Write the symbols of the following element :

1. Aluminium.
2. Silver.
3. Mercury.
4. Calcium.

C Two objects, object (A) its mass 8000 gm. at 6 m. height from the earth's surface, and object (B) of weight 50 N. at 10 m. height, from earth's surface, which of the two objects stores more potential energy. (Given gravity acceleration = 10 m/sec^2)

8

Giza Governorate

Abou Elhomrous Directorate

Answer the following questions :

Question 1

1 Complete the following statements :

1. In solar cell, energy changes into energy.
2. The monoatomic liquid is, while is diatomic liquid.
3. Heat transfers through solids by, while through liquids by
4. The front limbs of whale are modified into to help it to

2 Give an example for :

1. Very active metal.
2. Dicotyledon plant.
3. A device changes electric energy to heat energy.
4. A solid substance which is soft at room temperature.

3 An object whose mass is 2 kg, moving at a speed 5 m/sec. Calculate its kinetic energy.

Question 2

1 Write the scientific term :

1. The basic classification unit of the living organisms.
2. The of potential energy and kinetic energy.
3. The spaces between molecules.
4. The smallest building unit of matter which exist freely.
5. Energy is neither created nor destroyed but it is converted from one form to another.
6. The ability of some living organisms to hide from their enemies.

2 Write the electronic configuration and calculate the number of neutrons of :

1. $^{35}_{17}\text{Cl}$
2. $^{20}_{10}\text{Ne}$
3. $^{16}_8\text{O}$

3 Mention the difference between :

1. The electron and the proton.
2. Insects and arachnids.

تفوقه في أي عمل عليه العلاءة ري



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Question

3

A Choose the correct answer :

- From animals with internal support
a. octopus. b. fish. c. snail. d. jellyfish.
- Silver is symbolized by
a. Hg b. S c. Si d. Ag
- Chemical energy is stored in
a. car battery. b. stretched spring.
c. raising a load upwards. d. car lamps.
- is an example for plants that reproduce by spores.
a. Pine b. Bean c. Vougheir d. Wheat
- is a permanent source of energy.
a. Petrol b. The Sun c. Coal d. Battery
- The third energy level is saturated by electrons.
a. 2 b. 10 c. 18 d. 8

B Give reasons for :

- The freezer is found at the top of the fridge.
- The shallow water birds have long and thin beaks.
- It is easy to divide an amount of water to smaller parts.

C What is meant by ... ?

- Mass number.
- Hibernation.

Question

4

A Correct the underlined words :

- The molecule of a compound consist of similar atoms.
- Insectivorous plants absorb nitrogen to form fats.
- Frication produces light energy.
- Kinetic energy stored in the object due to work done on it.
- In the simple electric cell the positive pole is made of zinc.
- Liquids have a fixed shape.

B Mention name or function for the following :

- Nickel-chrome alloy.
- Simple electric cell.



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3. Palm legs in geese.
4. Long and fingers in monkey.

What happens when ... ?

1. When an electron gains a quantum of energy.
2. Increasing the speed of a moving object to double its value when the is constant (concerning the kinetic energy).

9

Giza Governorate

El-Sadat Gov. Language Schools

Answer the following questions :

Question

1

Complete the following :

1. The animals with external support such as and .
2. Silver symbol is whereas sodium symbol is .
3. In the simple electric cell the energy changes to energy.
4. The liquid element its molecule composed of one atom is , while the liquid element composed of two atoms is .

Mention the difference between :

1. Potassium and gold. (according chemical activity).
2. Bat and whale (according to the adaptation of the front limbs).

Find the kinetic energy of a body its mass is 500 gram and with speed of 6 m/s.

Question

2

Choose the correct answer :

1. In the rodent the number of incisors in the upper jaw is .
 a. one pair. b. two pairs. c. three pairs. d. .
2. Heat transfers from Sun to Earth by .
 a. conduction. b. convection. c. radiation. d. answer.
3. When the object is throw upward the of object decreases.
 a. mass b. heat c. potential energy d. kinetic energy
4. Spider belongs to .
 a. insects. b. arachnids. c. myriapods. d. vertebrates.

Compare in table between :

Car dynamo and car cassette (according to the energy used and energy produced).



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Write the **symbol** and draw the electronic configuration of the following atoms :

1. ${}_{20}\text{Ca}$ 2. ${}_{15}\text{P}$ 3. ${}_{18}\text{Ar}$

Question 3

Write the scientific term of the followings :

1. The sum of potential and kinetic energy.
2. Pollution produced from the networks of cellular phone.
3. The **ratio** of positive protons and neutral neutrons in the nucleus of atom.
4. Energy is neither created nor destroyed, but it is converted from one form to another.

Give reasons for :

1. Freezer is found **at** the top of the fridge.
2. Frogs hibernate in winter.
3. The atom is electrically neutral in its ordinary state.

Question 4

When copper piece its mass 156 gm. is put in graduated cylinder containing 100 cm^3 of water, the reading of cylinder becomes 120 cm^3 . Calculate the density of copper.

What happens when ... ?

1. The legs of camel do not end with thick flat pads.
2. Adding 100 cm^3 of ethyl alcohol to 400 cm^3 of water.

Give **one** example for each of the followings :

1. An alloy used in making heating coil.
2. Insectivorous plants.
3. Solid substance has low melting point.
4. Permanent source of energy.

10

Giza Governorate

Awseem Directorate

Answer the following questions :

Question 1

Complete the following statements :

1. The symbol of is (Ag), while the symbol of is (Hg).
2. Bird migration is considered as adaptation.



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3. Heat transfers by through material media and non-material media.
4. In photosynthesis process, energy is changed into energy.
5. Electrons revolve around the in orbits known as

Q What happens when _ ?

1. A compass is put near to ■ wire of simple electric cell.
2. Increasing the speed of moving object to double and why ?

Question 2

A Write the scientific term for each of the following sentences :

1. The sum of potential and kinetic energies.
2. The number of positive protons in the nucleus.
3. Temperature at which solid state begins to change into liquid one.
4. The simplest pure form of matter which can't be analyzed to simpler.

B What is meant by each ... ?

1. Hibernation.
2. Law of conservation of energy.

C Compare between each of the following :

1. Ammonia gas and hydrogen chloride (according to : number of elements and number of atoms).
2. Solid and gas (according to intermolecular spaces and forces).

Question 3

A Give **REASON** for each of the following :

1. The atom is electrically neutral.
2. The shallow water birds have long and thin beaks.
3. Wood floats on water surface, while a piece of iron sinks in it.
4. Some plants are insectivorous plants.
5. Electric wires are made up of copper.

B If the work done to ■■■ box a distance of 5 metres equal 20 joules. Calculate the force.

C Write the chemical symbol of :

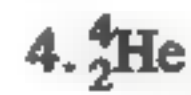
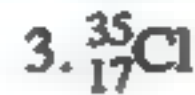
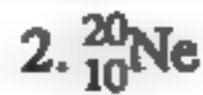
1. Iron.
2. Gold.
3. Copper.
4. Zinc.

Question 4

A Write the mathematical relationship that binds between each of the following :

1. The weight of ■ object and its ■■■■
2. The number of electrons that saturates certain energy level.
3. Density, mass and volume of a substance.

A Write the electronic configuration for the following elements, then calculate the number of protons and mention the type of the element.



B Give **one** example for :

1. Liquid diatomic element.

2. Soft body organism.

11 Alexandria Governorate

Al-Safwa Integrated School

Answer the following questions :

Question

1

A Complete the following statements :

1. alloy is used in making jewels, while alloy is used in making heating coils.
2. The monoatomic liquid is, while the diatomic liquid is
3. The electric lamp changes energy into energy.
4. From toothless mammals and
5. Heat is transferred in solids by, while in liquids by

B Give **one** example :

1. A very active metal.

2. Noble gas.

3. Animal with soft body.

4. Arachnids.

Question

2

A Write the scientific term :

1. The temperature at which matter begins to change from solid to liquid.
2. The simplest pure form of matter which can't be analyzed.
3. The ability to do work or make a change.
4. The basic classification unit of living organisms.
5. The ability of some living organisms to be hidden from enemies.
6. Energy is neither created nor destroyed but it is converted from one form to another.

B Give reasons for :

1. Atom is electrically neutral.

2. Heater is placed on the ground.

C Correct the underlined words :

1. Measuring unit of energy is newton.2. In solar heater, the solar energy is converted into kinetic energy.

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3. In winter frog undergoes aestivation.
 4. The chemical symbol of potassium is PO.

Question 3

A Choose the correct answer :

- The symbol of silver is
 a. Ar b. Ag c. Au d. Al
- is an example of plant that reproduce by spores.
 a. Adiantum b. Bean c. Voughier d. (a) and (c)
- The measuring unit of density is
 a. cm/gm. b. gm/cm³. c. kg/cm. d. gm/cm.
- An object its mass is 2 kg. and moving at speed 4m/s, so its kinetic energy =
 a. 16 joule. b. 64 joule. c. 32 joule. d. 2 joule.
- Chemical energy can be stored in
 a. car battery. b. stretched spring. c. lamp. d. waterfalls.

B Compare between each of the following :

- Rodents and lagomorphs (according number of teeth in each jaw).
- Solids and gases (according to attraction force).

Question 4

A Put (✓) or (x) and correct the wrong ones :

- The first energy level (K) is saturated with 8 electrons. ()
- Mechanical energy is converted into heat energy by friction. ()
- Sun is the permanent source of energy. ()
- Bean plant is from monocotyledon. ()

B Write the electronic configuration of each of the following atoms :

- ²⁴₁₂Mg 2. ²³₁₁Na 3. ²⁰₁₀Ne 4. ¹⁶₈O

Then find the number of neutrons

C On determining iron density by using ■ piece of iron of mass 78 gm. the piece is immersed in 100 cm³ of water the water increases up to 110 cm³. Calculate iron density.



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12

Alexandria Governorate

El Montaza Zone Directorate

Answer the following questions :

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Question

1

A Complete the following statements :

1. Density is the of unit volume of the substance and its unit is
2. The liquid element its molecule is composed of one atom is, while that composed of two atoms
3. and are toothless mammals.
4. Heat is carried from the electric heater to our body by and

B Write the symbols of the following elements :

1. Lithium.
2. Silver.
3. Chlorine.

C A stone of 5 kg. falls from 8 m, What is its potential energy ? (Gravity acceleration = 10 m/s^2)

1. At the start of falling.
2. At the height of 2 m.
3. On reaching ground.

Question

2

A Write the scientific term :

1. Imaginary places in which electrons can move according to their energies.
2. The way by which the heat is transferred throw gasses and liquids.
3. An example of animal with external support.
4. The sum of potential energy and kinetic energy.
5. The basic classification unit of living organisms.

B Mention one use for the following :

1. Simple electric cell.
2. Nickel-chrome alloy.
3. The palm legs in geese.

C What happens when ... ?

1. Three atoms of hydrogen combine with atom of nitrogen.
2. An object is thrown upwards.
3. Increasing the of a body to double (According to its density).

Question

3

A Correct the underlined words :

1. The solar cell changes the solar energy into energy.



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2. The simple electric cell consists of sugary solutions dipped in it two different metals.
3. Vougheir is the fern plant that reproduces by formation of seeds.
4. Heat is transferred from the Sun to the Earth by convection.
5. Banana tree carries small-sized leaves.

10 Cross out the unsuitable word :

1. Locust – Mosquito – Cockroach – Spider.
2. Beans – Pea – Pine – Corn.
3. Petroleum – wood – Cork – Iron.

11 Give reasons for :

1. The intercourse (mate) between dog and cat impossible.
2. The motion of the children's swing is like that of the pendulum.
3. The atom is electrically neutral.

Question

4

1 Choose the correct answer :

1. An object of mass 2 kg. is moving at a speed of 4 m/s. has a kinetic energy joules.
a. 16 b. 64 c. 32
2. In solar heater, solar energy is converted into energy.
a. light b. electric c. heat
3. is from the rodents that undergo aestivation.
a. Rat b. Jerboa c. Desert snail
4. The colour property is a distinguishing factor between
a. Flour-sugar. b. silver-gold. c. oxygen-helium.
5. The third energy level is saturated by electrons.
a. 2 b. 18 c. 8
6. A substance is solid and can't be soften by heating
a. copper. b. sulphur. c. aluminum.

12 Write the electronic configuration :

1. $^{23}_{11}\text{Na}$ 2. $^{20}_{10}\text{Ne}$

Then determine each of the following :

1. Atomic number.
2. Mass number.
3. Number of electrons.
4. Number of Neutrons.
5. Number of energy levels.
6. Chemical activity.

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13

Alexandria Governorate

East Zone Directorate

Answer the following questions :

Question

1

A Complete the following statements :

1. The liquid element which its molecule is composed of one atom is , while that is composed of two atoms is
2. Some solutions are good conductors of electricity as and , while others are bad conductors of electricity
3. Heat is transferred through gases by , while transferred through solids by
4. From plants that have large leaves and from that have small leaves
5. Secretion of sweat in humans is a adaptation.

B Show by drawing the electronic configuration of the following elements :

1. $_{16}\text{S}$ 2. $_{6}\text{C}$

C What is meant by ... ?

1. Boiling point.

2. Heat energy.

Question

2

A Write the scientific term :

1. The behavior that desert animals do to avoid the high temperature in summer.
2. The result of combination between two or more atoms of different elements with constant weight ratios.
3. The gases that do not take part in the chemical reaction.
4. The stored energy in an object due to the work done on it.
5. Imaginary places around the nucleus in which the electron move according to their energy.
6. A group of animals similar in their shape and can get intermated together to produce fertile individuals.

B Give reasons for each of the following :

1. Technology has negative effects in the environment.
2. The kinetic energy of a moving object increases by the increase of its mass.
3. The rule $(2n^2)$ is not applied to the energy levels greater than four.



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B What happens when ... ?

1. Using water to extinguish petrol fires.
2. Dipping two different metals connected by copper wire in an acidic solution.

C Give one example for each of the following :

1. An animal with external supported body.
2. A toothless animal.
3. A plant that reproduces by spores.
4. A mammal which its front limbs are modified into wings.

14

Kalyobia Governorate

Banha Directorate

Answer the following questions :

Question

1

A Complete the following sentences :

1. Hawks have beaks to tear the prey, whereas ducks have beaks to filter food from water.
2. Electrons are particles with charge, while protons are particles with charge.

B Show by words, what are these symbols ?

1. Al
2. O
3. H
4. Fe.

C Compare between :

Elements and compounds in only one point (one example on each one).

D Transfer the following table to your answer paper and fill it :

Element symbol	Atomic number	Mass number	Number of protons	Number of electrons	Number of neutrons
$^{14}_7\text{N}$
$^{12}_6\text{C}$

Question

2

A Put (✓) or (x) and correct the wrong ones :

1. Intermolecular spaces are tiny in solids. ()
2. Insectivorous plants absorb nitrogenous substances from insects. ()
3. From substances that float on the surface of water is copper. ()



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- 11 Find the weight of an object its mass 50 kg, knowing that the Earth's gravitational acceleration is 9.8 m/sec^2 .
- 12 Choose the odd word out and say why do you choose it ?
1. Height – Weight – Mass – Potential energy.
 2. Ant – Bee – Spider – Cockroach – Locust.
 3. Drosera – Dieonea – Cactus – Halophila.
 4. Bean – Pea – Maize – Pine – Wheat.
- 13 Correct the underlined word :
1. Maize is from dicotyledon plants.
 2. Octopus is from supported body animals.
 3. A horse hoof is an example on behavioral adaptation.

Question

3

- 14 On determining iron density using a piece of iron of mass 78 gm. The piece is immersed in 100 cm^3 of water, the water increases up to 110 cm^3 . Calculate iron density.
- 15 Choose the right answer :
1. The number of energy levels in the heaviest atoms is
 - a. 7
 - b. 8
 - c. 32
 - d. 18
 2. From inert gases
 - a. nitrogen.
 - b. helium.
 - c. oxygen.
 - d. bromine
 3. Heat transfers from Sun to Earth by
 - a. convection.
 - b. radiation.
 - c. conduction.
 - d. conduction and convection.
 4. In car engine, energy of the fuel is changed into heat and mechanical energy.
 - a. chemical
 - b. electric
 - c. light
 - d. solar
- 16 Define : 1. Matter. 2. Kinetic energy.

17 Illustrate : The electronic configuration for 1. $^{23}_{11}\text{Na}$

2. $^{40}_{20}\text{Ca}$

18 Draw a diagram to show the simple electric cell.

Question

4

- 19 A ball mass launched upwards and vertically at a speed 3 m/sec. up to a height 4m. Calculate the mechanical energy (work done) of the ball if its weight is 5 newton and has a mass of 0.5 Kg.



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B Write the scientific term :

1. They are metals which find great difficulty in reacting with oxygen.
2. The ability to exert (do) work or make a change.

C Give reasons for :

1. Water is not used to put out petroleum fire.
2. Freezer of the fridge is found at the top.

D What happens when ?

1. No aestivation occurs to jerboa.
2. If the front limbs of the bat are not modified into wings.

E Match :

(A)	(B)
1. Migration of quail bird	a. Scorpion.
2. Soft bodies	b. Mosquitoes.
3. Insects	c. Behavioral adaptation.
4. Myriapods	d. Armadillo.
	e. Scolopendra.
	f. Earthworm.

15 El-Menofia Governorate

Shebin Elkhayma Directorate

Answer the following questions :

A Complete the following sentences :

1. A piece of metal its mass is 25 g. and its volume is 10 cm^3 , when it is placed in water it will (water density 1 g/cm^3 .)
2. Kinetic energy increases by increasing and of the object.
3. The density is directly proportional to and inversely proportional to
4. Drosera and Dieonea are examples for
5. Some substances are solids which cannot be soften if heated such as and
6. The networks of wireless transmitters of cellular phones pollution but exhaust pollution.



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- B** Write the electronic configuration of the following atoms and calculate the number of neutrons in each atom ? (${}^{24}_{12}\text{Mg}$ - ${}^{35}_{17}\text{Cl}$)

Question

2

- A** Write the scientific term for each of the following sentences :

1. It is the temperature at which a substance begins to change from a liquid state into a gaseous state.
2. It is a form of energy which transfers from a higher temperature object to a lower temperature object.
3. Animals have one pair of incisors in each jaw.
4. It is the amount of energy lost or gained by an electron when it transfers from one energy level to another.

- B** What happen when **B** Why ... ?

1. Dipping two different metals connected by a wire in an sugary solution.
2. Removal the front teeth of hedgehog.

- C** Compare between :

Sodium and copper according to (React with oxygen and Chemical activity).

Question

3

- A** Put (✓) or (✗) :

1. Molecules of the same substance are different from each other. ()
2. All mammals walk on four limbs. ()
3. Work done = Force × Displacement. ()
4. Activity of birds during the daylight and bats at night are examples of functional adaptation. ()
5. The electrons are distributed to fill the "K" level before filling the "L" level. ()
6. Intermolecular space between molecules of the matter is directly proportional with its intermolecular forces. ()

- B** Give reasons for :

1. Equal masses of different substances have different volumes.
2. It is easy to divide an amount of water into smaller parts.
3. The freezer is found at the top of fridge.
4. Spider is not from insects.



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Question

4

1. Give one example showing each of the following :

1. Molecules of gaseous elements composed of one atom.
2. A device converts electric energy into mechanical energy.
3. Hibernation in amphibians.
4. Micro-organisms.

2. A stone of 5 kg. mass falls from 10 m. height, find its potential energy and its kinetic energy at the start of falling. (gravity acceleration = 10 m/s^2 .)

3. Explain each of the following :

1. The moving pendulum keeps its mechanical energy.
2. The way of reproduction different in vougheir plant from wheat plant.
3. $_{10}\text{Ne}$ atom is more stable than $_{17}\text{Cl}$ atom.

16

Gharbia Governorate

El Salam Private Language School Tanta

Answer the following questions :

Question

1

1. Choose the correct answer :

1. Equal masses of different substances have volumes.
a. different b. constant c. equal
2. When a substance sinks in water, that means its density is the density of water.
a. equal to b. less than c. more than
3. The matter doesn't take the shape of the container.
a. solid b. liquid c. gaseous
4. The molecule of oxygen is composed of atom(s).
a. one b. two c. three
5. The particles which revolve around the nucleus of an atom of element
a. neutrons. b. protons. c. electrons.
6. are from the animals which don't have body support.
a. Reptiles b. Snails c. Jellyfish



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1) Mention the difference between each of the following :

1. Insects and arachnids.
2. Active metals and inactive metals.

2) Give reasons for :

1. Car engine is important to the car.
2. The heater is placed on the ground.

Question

2

1) Put (✓) or (x) and correct the wrong ones :

1. Argon atom ($^{40}_{18}\text{Ar}$) has four energy levels. ()
2. The melting point of wax is equal to the melting point of table salt. ()
3. The kinetic energy of a static object equals zero. ()
4. In the electric cell, the electric energy is converted into chemical energy. ()
5. Insectivorous plants can't absorb the nitrogenous substances from the soil needed to make fat. ()
6. The energy level "K" has the highest energy. ()

2) Write the electronic configuration of the following atoms :

1. $^{16}_8\text{O}$
2. $^{35}_{17}\text{Cl}$

3) What is meant by ... ?

1. Micro-organisms.
2. Adaptation.
3. Transfer of heat by radiation.

Question

3

1) Complete the following statements :

1. The density is the of unit volume of a substance and its measuring unit is
2. An alloy of is used in making jewels, while an alloy of is used in making coils.
3. The smallest part of the element that can take part in a chemical reaction is known as
4. The symbol of sodium atom is, while that of sulphur atom is
5. is the basic unit of classification in living organisms.

2) A ball was launched upwards and vertically at a speed 3 m/s. up to a height 4m.

Calculate the mechanical energy of the ball if its weight is 5 N and has a mass 0.5 Kg.



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Write the names of elements of the following symbols :

1. H

2. Cu

3. Fe

4. C

Question 4

Write the scientific term for each of the following sentences :

1. The pollution produced from the networks of wireless transmitters of cellular phones.
2. The measuring unit of energy.
3. The positively charged particles in the nucleus of an atom.
4. The spaces that found among the molecules.

Choose from column (B) what suits it in column (A) :

(A)	(B)
1. Wind generator	a. is a source of nuclear energy.
2. Radio cassette	b. is a source of heat energy.
3. Electric lamp	c. is a source of electric energy.
4. Oven	d. is a source of light energy.
	e. is a source of sound energy.

What happens when ... ?

1. The pendulum passes its rest position (concerning potential and kinetic energy).
2. The electron gains a quantum energy.
3. Leaving a piece of iron exposed to moist air for a period of time.
4. Rubbing your hands together.

17

Dakahlia Governorate

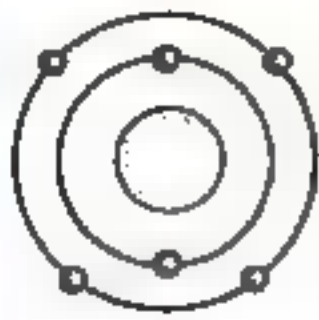
Talkha Directorate

Question 1

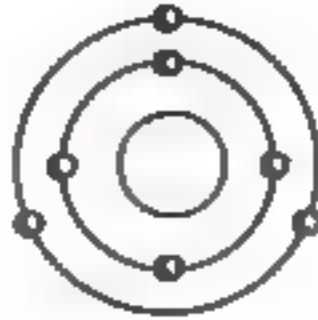
Choose the correct answer :

1. The density of 12 gm. of pure iron is the density of 2 gm. from it.
 - a. more than
 - b. less than
 - c. equal to
 - d. no correct answer
2. The element whose atomic number is 10 and it doesn't take part in chemical reactions, it is similar in its chemical properties the element whose atomic number equals
 - a. 9
 - b. 11
 - c. 16
 - d. 18

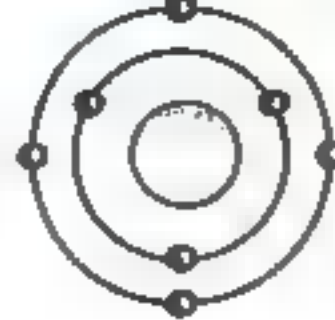
3. Which of the following atoms represents ■ excited atom ... ?



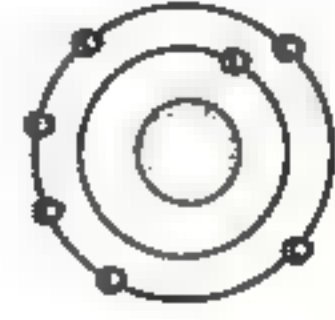
a.



b.



c.



d.

4. Amoeba, euglena and paramecium differ from each other in the

a. number of teeth.

b. number of legs.

c. kind of support.

d. way of movement.

5. insect exactly looks like the plant branches.

a. Stick

b. Beetle

c. Leaf

d. Locust

B Your classmate has seen ■ bird, he doesn't know this bird's name but he managed to describe it ■ a bird with a sharp beak and the legs end in fingers with strong claws. According to your classmate story, answer the following questions :

1. What is the type of adaptation in both the beak and leg of this bird ?

2. How many fingers are in each leg ?

3. What type of food does this bird feed on ?

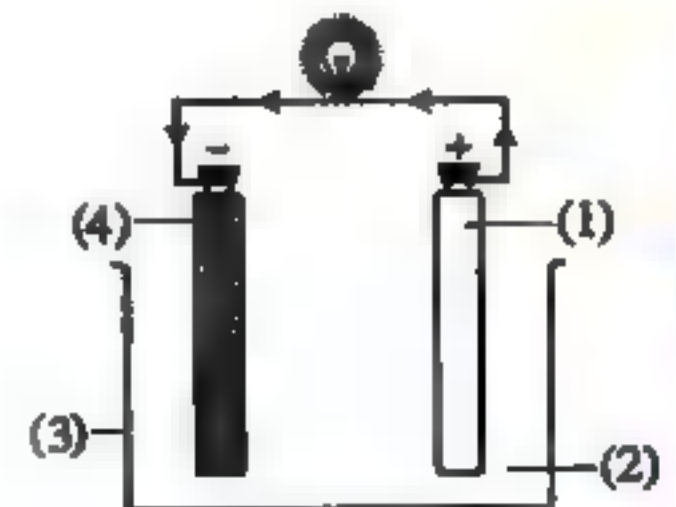
Question 2

A Put (✓) or (✗) for each of the following :

1. The fuel inside the car is similar to the food inside the body of a living organism. ()
2. Heat is transferred in solid materials by radiation. ()
3. When air is cooled, density decreases, so it falls down. ()
4. No change in the potential energy when the object moves horizontally. ()
5. Gymnosperms ■ classified into monocotyledon and dicotyledon plants. ()
6. Smell property is a distinguishing factor between perfume and ammonia. ()

B From the opposite figure ■■■ the following questions :

1. Mention the name of the opposite device.
2. Label the fig.
3. Mention the idea of its operation.



Question

3

Give **REASON** for each of the following :

1. Disappearance of ■ little amount of table salt when it is put in a beaker containing water for ■ period of time.
2. The atom is electrically neutral.
3. The kinetic energy will increase four times as the speed of the moving object is doubled.
4. Car exhaust is considered from the negative effects of technological applications.

Answer the following :

1. The teacher advised the pupils to lie on the ground when the smoke emitted from any fire. What is your interpretation of the teacher's advise in the light of your understanding of the concept of transferring the heat by convection ?
2. The opposite figure represents a part of a plant.
 - a. What is the difference between this plant and bean plant ?
 - b. What is the similarity between this plant and cycas plant ?
 - c. Mention another example in the ■■■ classification of this plant.



4

Write the scientific term for each of the following sentences :

1. The modification in the behavior of ■ living organism at specific times of the day or year.
2. The branch of biology that searches for the similarities and differences among living organisms.
3. A group of animals that have one pair of incisors in each jaw.
4. Energy is neither created nor destroyed, but it is converted from one form to another.

Write the symbol of the following elements :

1. Potassium.
2. Aluminium.
3. Chlorine.
4. Nitrogen.

A stone, whose ■■■ is 5 kg. is thrown from a height of 8 m. find ■ potential energy and ■ kinetic energy :

1. at the beginning of fall.
2. After reaching at a height of 2 m.
3. When the stone reaches the Earth.

(Knowing that the acceleration due to gravity = 10 m/sec^2).

18

Port Said Governorate

Port Said Integrated Language Schools

Answer the following questions :

Question

1

A Complete the following statements :

1. The front limbs of dolphins are modified into to take the role of
2. and from micro-organisms.
3. Heat is transferred through liquids by, while through space by
4. The belongs to insects, whereas the belongs to arachnids.
5. An alloy of is used in making jewels, while an alloy of is used in making heating coils.
6. In the dynamo, energy changes into energy.

B Draw the electronic configuration for each of the following elements :

1. $^{40}_{18}\text{Ar}$
2. ^7_3Li
3. $^{24}_{12}\text{Mg}$
4. $^{19}_9\text{F}$

C Give reasons for each of the following :

1. Some plants pounce and predate insects.
2. You feel hot when you touch a hot metallic spoon.
3. Atom is electrically neutral.
4. Inert gases can't share in chemical reactions.

Question

2

A Write the word(s) that represent(s) each of the following (scientific term) :

1. The temperature at which matter starts to change from solid to liquid.
2. Ability to do work or make a change.
3. The branch of biology that searches for the similarities and differences among living organisms.
4. The sum of potential and kinetic energies.
5. The ability of living organisms to be hidden from enemies or to capture the preys.

B In an experiments to determine water density, the following results recorded :

1. Mass of an empty glass beaker = 56 g.
2. Mass of the beaker containing water = 156 g.
3. Volume of the water measured by a graduated cylinder = 100 cm^3 .

Calculate the density.



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Write the symbol for each of the following :

1. Chlorine.

2. Aluminium

3. Zinc

4. Silver

Question

3

Choose from column (B), what suits column (A) :

(A)	(B)
1. Banana plant	a. is from gymnosperms.
2. Wheat plant	b. has small sized leaves.
3. Pine plants	c. is from monocotyledon.
4. Molukhiyah plant	d. is from dicotyledon.
	e. has large sized leaves.

Compare between each of the following :

1. Solar cell and solar heater (Concerning the energy transformation).
2. Elements and compounds (Concerning the definition and one example for each).

Correct the underlined words :

1. The nucleus of the atom is negatively charged.
2. Hydrogen is from inert gases.
3. Octopus is from myriapods.
4. Bromine is the only liquid metal that its molecule consists of one atom.

Question

4

Choose the correct answer :

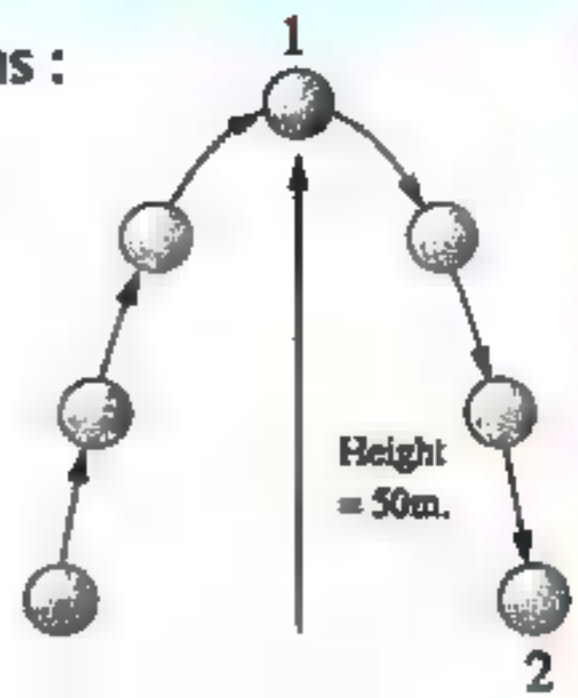
1. is from toothless mammals.
 - a. Lion
 - b. Cow
 - c. Lizard
 - d. Sloth
2. is a permanent source of energy.
 - a. Wind
 - b. Fuel
 - c. Food
 - d. The Sun
3. Electric energy is converted into sound energy in
 - a. car battery.
 - b. car lamps.
 - c. radio cassette.
 - d. pendulum.
4. Taste property is a distinguishing factor between
 - a. copper and iron.
 - b. vinegar and perfume.
 - c. salt and sugar.
 - d. gold and silver.
5. An object whose mass 2 kg. is moving at speed of 4 m/s. its kinetic energy joule.
 - a. 16
 - b. 64
 - c. 32
 - d. 128

B Look at the following figure, then answer the following questions :

1. The position(s) at which potential energy is the maximum value.
2. The position(s) at which kinetic energy is the maximum value.

Knowing that the weight of the ball = 20 N.

Calculate the potential energy at position (1).



Q What is meant by ... ?

1. The law of conservation of energy.
2. Boiling point.
3. Quantum.

19

Damietta Governorate

Damietta Education Directorate

Answer the following questions :

Question

1

Q Complete the following statements :

1. The simple electric cell converts energy into energy, while in solar cell energy changes into energy.
2. An alloy of is used in making jewels, while alloy of is used in making heaters coils.
3. The cockroach belongs to , whereas the scorpion belongs to although both of them are arthropods.
4. Ammonia molecule consists of atoms and atom.
5. Heat is transferred through air by and
6. The monoatomic liquid is , while is diatomic liquid.
7. Some solutions are good conductors of electricity as solution, while some solutions don't conduct electricity solution.

B Write the electronic configuration of following elements :

1. $_{17}\text{C}$ 2. $_{13}\text{Al}$ 3. $_{10}\text{Ne}$

Detect the inactive atom during chemical reactions (Give reason).

Q When a piece of iron its mass 156 gm. is put in a graduated cylinder containing 100 cm^3 of water the reading becomes 120 cm^3 . Calculate the density of iron.



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Question

2

1 Write the scientific term for the following :

1. The number of negative electrons in the energy levels around the nucleus of the atom.
2. The limited amount of energy needed or loss to transfer an electron from an energy level to another.
3. The ability of living organisms to be hidden from their enemies.
4. The process by which some animals hide in burrows to overcome low temperature.
5. The temperature at which a matter begin to change from the liquid state to gaseous state.
6. It is a basic classification unit for living organism.

2 Give one difference between each of the following :

1. Bean plant and maize plant.
2. Neutron and proton.
3. Fish and snail.
4. Intermolecular forces in solids and in gases.

كتب ذاكرولي في البحث واتضم لجروبات ذاكرولي
رياض الاطفال للصف الثالث الاعدادي

3 Write the symbols of the following elements :

1. Calcium.
2. Silver.
3. Zinc.
4. Potassium.

Question

3

1 Give reasons for :

1. The atom is electrically neutral.
2. Drosera plant pounces insects.
3. It is easy to divide amount of water into small droplets.
4. Some birds have long thin beaks and long thin legs.

2 What is meant by ... ?

1. Adaptation.
2. The excited atom.

3 What happens when ... ?

1. The front teeth of hedgehog are not extending outwards.
2. Doubling the height of object (concerning its potential energy).
3. Using water to extinguish petrol fires.



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Question

4

Choose the correct answer :

1. An example for plants that reproduce by spores is
a. adiantum. b. pea. c. bean. d. wheat.
2. From the animals which don't have a body support is
a. snail, b. jellyfish.
c. fish. d. cartilaginous fish.
3. Heat is transferred by convection through
a. liquids only. b. gases only. c. solid only. d. liquids and gases.
4. When the atomic number of element equals its mass number, this means that there is no
a. electrons. b. protons. c. neutrons. d. nucleus.
5. The third energy level in the atom contains electrons.
a. 2 b. 18 c. 8 d. 32

B Mention the energy transformation in each of the following :

1. Electric heater.
2. Solar oven.
3. Electric bell.

C Correct the underlined words :

1. Klnetic energy is stored in the object due to a work done on it.
2. In rodents the incisors number in the lower jaw is three pairs.
3. Some animals undergo hibernation to overcome the high temperature.
4. Measuring unit of weight is joule.
5. Gold is from very active metals.

20

Fayoum Governorate

Science Supervision

Answer the following questions :

1

D Complete the following statements :

1. Hawks have beaks to tear the prey, whereas ducks have beaks to filter food from water.
2. When car lamps and radio cassette are on, there is a change inside the car battery from energy into energy.
3. Heat is transferred through gases by and



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4. Holders of light bulbs in streets are painted from time to time in order to protect it from
5. The hydrogen molecule is consisted of atoms, while the argon molecule (inert gas) is consisted of atom.
6. If the speed of ■ object motion increases into the double, its kinetic energy increases into
7. The cockroach belongs to, whereas the scorpion belongs to

B Define :

1. Atom.
2. Species.

Question

2

A Correct the underlined words in the following statements :

1. Electric energy = Potential energy + Kinetic energy.
2. Wind is ■ permanent source of energy.
3. Ammonia consists of one oxygen atom and two hydrogen atom.
4. Lagomorphs have one pair of incisors in each jaw.
5. Mass number is known ■ the number of protons existed in ■ atom nucleus of an element.
6. An atom third level is saturated with 8 electrons.

B Show one difference between each of the following :

1. The element and compound.
2. Beans and wheat.

A Write the symbols of the following elements :

1. Potassium.
2. Gold.
3. Magnesium.
4. Aluminium.

Question

3

A Write the scientific term for each of the following statements :

1. A modification in a living organism or its body structure ■ even the biological function of its organs to become ■ adapted to the environmental conditions where it lives in.
2. The temperature at which matter changes from a solid phase into a liquid one.
3. Energy is neither created nor destroyed but can be transformed into another form.
4. A form of energy which transfers from higher temperature to a lower one.
5. The ability to do work.
6. The simplest pure form of a matter which can't be analyzed simpler.



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B Give reasons for :

1. The atom is electrically neutral.
2. The bike tyre gets hot once you press the brakes.
3. Forelimbs of whale are modified into paddles.

C On finding liquid density through an experiment, the following results recorded : Mass of an empty glass beaker 100 g. Mass of the beaker containing liquid 150 g. Volume of the liquid measured by a graduated cylinder 100 cm³. Calculate the liquid density.

Question 4

A Choose the correct answer to complete the following statements :

1. An object of 10 N. weight is placed at 5 m. height, it has a potential energy
a. 50 joule. b. 150 joule. c. 100 joule. d. 200 joule.
2. The handles of cooking pots are made of
a. copper. b. aluminium. c. wood. d. iron.
3. The taste property is a distinguishing factor between
a. sugar and table salt. b. wood and plastic. c. silver and gold. d. coal and iron.
4. The role of technological application is represented in
a. using energy resources and converting energy from form to another.
b. creating energy from nothing.
c. storing energy as its form is.
d. illustrating energy forms.
5. Solids have intermolecular force.
a. strong b. weak
c. medium d. no correct answer
6. is an example for plants that reproduce by spores.
a. Pine b. Beans c. Vougheir d. Wheat

B What happens when ... ?

1. Predator plants can't capture insects for a long period of time.
2. A liquid substance is heated.

C Write down the electron configuration of the following atoms. Which active and which inactive ?

1. $^{20}_{10}\text{Ne}$
2. $^{23}_{11}\text{Na}$



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21

El-Minia Governorate

New Minia Governmental Language School

Answer the following questions :

Question

1

Choose the correct answer :

- belongs to the animals with ■ body support.
a. Octopus b. Mussel c. Hedgehog d. Snake
- Dynamo converts mechanical energy into energy.
a. electrical b. nuclear c. solar d. chemical
- An object of ■ 2 kg is moving at speed of 4 m/s. has kinetic energy of J.
a. 16 b. 64 c. 32 d. 4
- is a permanent source of energy.
a. Wind b. Coal c. The Sun d. Water

Write the chemical symbol of :

1. Iron.
2. Silver.
3. Sodium.
4. Calcium.

Give reasons for :

1. The atom is electrically neutral in its ordinary state.
2. The heater is placed on the ground.
3. Camel limbs end in a thick flat pad.

2

Complete the following statements :

1. Heat is transferred through milk by
- 2, and are from plants that reproduce by spores.
3. Attraction force among the molecules of mercury is
4. The front limbs of whale are modified into for
5. One of the harmful effects of mobile networks is pollution.

Give ■ difference between each of the following :

1. Bean plant and maize plant.
2. Ammonia molecule and nitrogen molecule.



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1. An object of density 0.5 gm/cm^3 and volume 100 cm^3 . Find its mass? And if you know the density of water is 1 gm/cm^3 . Does this object sink in water? And why?

Question

3

1. Write the scientific term :

1. The heat state of an object on which the transfer of heat from or to the object depends.
2. The temperature at which the matter begins to change from the solid state to the liquid state.
3. Energy is neither created nor destroyed but it can be transformed into another form.
4. The ability of some body organs and tissues to do a certain function.

2. What happens when ... ?

1. The beaks of ducks are narrow and not indented.
2. The electron gains a quantum of energy.
3. Using of water in putting out petrol fires.
4. The height of an object is doubled (according to potential energy).

3. Mention one example of each of the following :

1. An insectivorous plant.
2. Camouflage.

Question

4

1. Choose the odd word out then mention the relation between the rest :

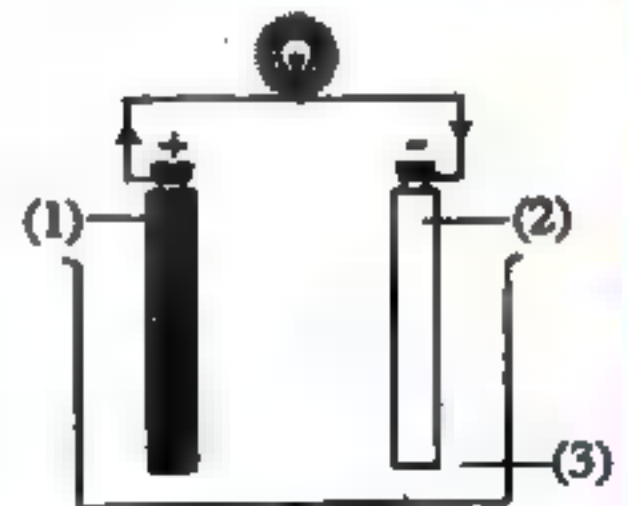
1. ${}_7\text{N}$ - ${}_{10}\text{Ne}$ - ${}_9\text{F}$ - ${}_{11}\text{Na}$.
2. Mosquito - Spider - Cockroach - Ant.
3. Iron - Copper - Aluminium - Wood.
4. Amoeba - Euglena - Clover - Paramecium.

2. Write the electronic configuration of the following atoms :

1. ${}_{11}^{23}\text{Na}$
2. ${}_{20}^{40}\text{Ca}$

3. Look at the opposite figure, then answer :

1. Mention the name of the opposite.
2. Label the figure.
3. This device changes energy into energy.



22

Assiut Governorate

Assiut Directorate

Answer the following questions :

Question

1

Complete the following statements :

1. The density is the of unit volume of a substance and its measuring unit is
2. Hydrogen molecule is composed of atoms, while argon molecule is composed of atom.
3. is from the plants that reproduce by formation of spores, while is from the plants that reproduce by formation of seeds inside cones.
4. Mechanical energy = +
5. The whale's front limbs are modified into to take the role of

What is meant by ... ?

1. Boiling point.
2. The potential energy of an object = 20 joules.

Write the symbols of the following elements :

1. Sodium.
2. Aluminium.

Question

2

Give an example for :

1. A piece of ice changes into water after a period of time when it is left in air.
2. Some plants pounce and digest insects.
3. The freezer is found at the top of the fridge.
4. The atom is electrically neutral.

Write the electronic configuration of the following elements, then :

1. ${}^7_3\text{Li}$
2. ${}^{24}_{12}\text{Mg}$

- Find the number of electrons in the outermost energy level in each atom.
- Calculate the number of neutrons in each atom.

What is the mass of a body, whose kinetic energy is 64 joules and its speed is 4 m/sec ?



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Question

3

A Choose the correct answer :

- The property of electric conduction is distinguishing factor between
a. iron and copper. b. wood and plastic.
c. iron and wood. d. no correct answer.
- An object of 20 N. weight and it is placed at a height of 5 m. , so its potential energy is joules.
a. 50 b. 150 c. 100 d. 200
- If you sit down beside an electric heater, heat is transferred to you by
a. convection. b. radiation.
c. conduction. d. convection & radiation.
- Scorpion belongs to
a. insects. b. arachnids. c. myriapods. d. mammals.
- The of the number of protons and neutrons in the nucleus of the atom is known as
a. atomic number. b. valency. c. number. d. density.

B Give an example of each of the following :

- Hibernation in amphibia.
- Camouflage in insects.

C Mention the difference between each of the following :

- Rabbit & squirrel.
- Bean & wheat.

Question

4

A Write the scientific term :

- A group of animals that have three pairs of jointed legs.
- A form of energy which is transferred from the object of higher temperature to that of lower temperature.
- A set similar animals in their shape and can get intermated together to produce fertile individuals.
- The fundamental building unit of matter that take part in the chemical reaction.

B Write the odd out and write the scientific term of others :

- Wheat – Pea – Corn – Bean – Pine.
- Lion – Tiger – Dog – Wolf – Armadillo.

C State the energy transformation in each of the following :

- Dynamo.
- Electric lamp.
- Motor.
- Electric bell.



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23

Sohag Governorate

El-Balina Directorate

Answer the following questions :

Question 1

A Complete the following statements :

1. An alloy of is used in making jewels, while ■ alloy of is used in making heating coils.
2. and are toothless mammals.
3. When a body raised up, the potential energy, while the kinetic energy
4. and ■ used in classifying plants.

B Write the chemical symbols of :

1. Sodium.
2. Calcium.
3. Potassium.
4. Chlorine.

C Give an example for :

1. Camouflage in insects.
2. Aestivation in rodents.
3. A device changes kinetic energy into electric energy.
4. A permanent source of energy.

2

A Write the scientific term :

1. Energy gained or lost to transfer ■ electron from one energy level to another.
2. Energy is neither created nor destroyed but it can be transformed into another form.
3. The basic unit of classification in living organisms.
4. Number of positive protons in nucleus of the atom.
5. Energy stored in the object due to the work done on the object.
6. Plants can't be distinguished into roots, stems and leaves.

B Give reasons for :

1. The heater is put at the bottom of the room.
2. Workmen melt the solid metals.
3. Atom is electrically neutral.
4. Some animals hibernate in winter.



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Question

3

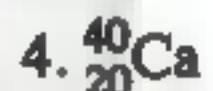
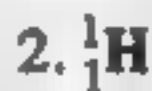
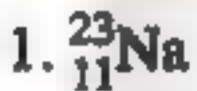
A Choose the correct answer :

- The following animals have no body support except
a. worms. b. octopus. c. jellyfish. d. fish.
- When atomic number of an element equals its mass number this means that there aren't in the nucleus of this element.
a. electron b. protons c. neutrons d. photons
- An object of 20 N. weight is placed at 5 m height, it has potential energy
a. 50 joule. b. 100 joule. c. 150 joule. d. 200 joule.
- The number of atoms is equal to the number of elements in molecule.
a. water b. hydrogen chloride c. oxygen d. ammonia gas

B Give one difference between :

- Insects and arachnids.
- Rodents and lagomorphs.

C Write down the electronic configuration of the following :



Question

4

A What is meant by — ?

- The density of natural milk 1.03 gm/cm^3
- Heat energy.

B Put (✓) or (x), then correct the wrong ones :

- In solar cells, the solar energy is converted into heat energy. ()
- The atomic number is the number of protons and electrons. ()
- Angiosperms are called flowering plants. ()
- The motion of gaseous molecule is limited. ()

C An object has kinetic energy 64 joule and is moving at velocity 4 m/s. Find the object mass.

نفوقه في اي عمل عليه العلامة



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Answer the following questions :

Question

1

A Complete the following statements :

1. The matter is composed of small units called, while these units are consisted of smaller units called
2. Frictions turns energy into energy.
3. and are toothless mammals.

B What is the different between ... ?

1. Element and compound.
2. Potential and kinetic energies of an object.

C What happens when ... ?

1. You open a perfume bottle in a closed room for a while.
2. Polar bear can't undergo hibernation.

Question

2

A Choose the correct answer :

1. Resource of permanent energy is
a. petrol. b. the Sun.
c. nuclear reactions. d. coal.
2. is from substances that float on water surface.
a. Iron b. Copper c. Cork d. Aluminium
3. The example of living organism that undergoes hibernation is the
a. desert snail. b. jerboa. c. frog. d. all the previous.
4. Heat transfer by radiation takes place through
a. liquids only. b. gases only.
c. material media and nonmaterial ones. d. metals only.

B Give reasons for the following :

1. Handles of cooking pans are made up of wood or plastic.
2. Solar heater is preferred to gas heater.

C Mention one example for :

1. An insectivorous plant.
2. A device that produces heat energy.
3. A very active metal.



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Question 3

A Write the scientific term :

1. The basic classification unit for living organisms.
2. The mass of unit volume of the substances.
3. Sum of protons and neutrons in a nucleus.
4. The work done during the motion of an object.

B Write the electron configuration of the following :

1. $_{11}\text{Na}$ 2. $_{17}\text{Cl}$ 3. $_{12}\text{Mg}$ 4. $_{3}\text{Li}$

C Calculate the potential energy of an object its weight is 20 N., placed at 5 m height from the ground.

Question 4

A Put (✓) or (✗), then correct the wrong one :

1. The distance among solid molecules is very large. ()
2. In car lamps, electric energy changes into light energy. ()
3. The compound consists from a combination of atoms of one element. ()
4. The bird activity during the day and the bat during night is from functional adaptation. ()
5. Iron rusts when it is exposed to dry air. ()
6. Melting point is the temperature at which the matter changes from solid phase into liquid one. ()

B What is the importance of ... ?

1. The front teeth of hedgehog.
2. Long arms of monkey.

C Choose the odd word :

1. Oxygen – Nitrogen – Water – Chlorine
2. Lion – Tiger – Dog – Wolf – Armadillo
3. Hibernation – Extinction – Aestivation – Camouflage.
4. Petroleum – Wood – Cork – Iron

25 South Sinai Governorate

Tour Sinai Directorate

Answer the following questions :

Question 1

A Complete the following statements :

1. The chemical symbol of iron element is, while S is the chemical symbol for element.
2. The mechanical energy = +



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3. Cockroaches is considered from, while scorpion is considered from
4. The horse foot ends with and this type of adaptation.
5. The water molecule consists of one atom from and two atoms from
6. Some solids are soft at ordinary temperature such as, while cannot be soften if is heated.

B Show the electronic configuration for the following atoms, then show which one is active and which one is inert :

1. $^{40}_{20}\text{Ca}$
2. ^4_2He
3. $^{24}_{12}\text{Mg}$

C What is the meant by ... ?

1. The melting point of ice = zero degree celsius.
2. The kinetic energy of an object = 400 joule.

Question 2

A Correct the underlined word from the following :

1. The liquid element which its molecule consists of two atoms is mercury.
2. Transfer of heat by conduction does not need a material medium.
3. The relation $2n^2$ determines the number of neutron in energy level.
4. The networks of cellular phone cause noise pollution.
5. Copper rode is the negative pole in the simple electric cell.
6. The stored energy in battery car is potential energy.

B A metallic ball has 4 Kg/mass launched upward to 6 m. high, calculate the potential energy at maximum Height. Knowing that gravity acceleration = 10 m/s^2

C Mention each of the following :

1. The way of heat transfer through amount of water.
2. The device which is used in examining of micro-organisms.
3. Edentates (teethless animal).
4. The reason which makes chameleon colours itself with the dominant colours of the environment.

D Determine the energy transformation in each of the following :

1. Electric lamp.
2. Electric generator (dynamo).

Question 3

A Write the scientific term for the following :

1. The simplest pure substance that could not analyzed into simpler form.
2. The number of positive protons inside the nucleus of the atom.



3. The fundamental unit for natural classifying system in living organisms.
4. The plants which can not distinguished into root, stem and leave.
5. A substance that its solution in benzene does not conduct electricity.
6. The energy which transfers from high temperature object to low temperature object.

B Compare between the following :

1. Rodents and lagomorphs according the number of incisors in each jaw.
2. Sodium element and gold according to chemical activity.

C A piece of iron has mass 78 grams and its volume 10 cm^3 . Calculate its density ?

D Mention one example for the following :

1. Predacious plant.
2. A gas its molecule consists of two similar atoms.

Question 4

A Give reasons for the following :

1. "K" energy level is filled with electrons before "L" energy level.
2. The predatory birds have sharp and strong crooked beak.
3. Iron rod not copper are used in building houses concrete.
4. The atom is electrically neutral.
5. The electric heater is placed down on the ground of room.

أعجب جداً ذاكرولي على
فيسبوك
تويتر
والمن اب
الليجرام

B Choose the correct answer from the following :

1. A smell property is distinguishing factor between
a. iron and copper. b. wood and plastic. c. perfume and vinegar.
2. From the animals that undergo aestivation is
a. rat. b. jerboa. c. frog.
3. During festivals balloon is filled with gas.
a. nitrogen b. hydrogen c. oxygen
4. The permanent source of energy is
a. petroleum. b. electricity. c. the Sun.
5. From the plant that reproduce by forming spores
a. pine. b. wheat. c. voughair.

C What would happen when ... ?

1. The horse and camel exchange their feet.
2. The electron requires a quantum of energy.



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